

REMARKS

The Examiner has rejected a number of claims under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 6,104,701 issued to Avargues that describes a method and system for performing a least cost routing function for data communications between end users in a multi-network environment. The Examiner relied upon a brief description of a wildcard optimization algorithm at column 10, lines 11 – 63 that reduces the minimum number of resource id's to be registered in the node tables. The algorithm is illustrated by an example using a six digit telephone number "ABabcd" where "abcd" is variable. Accordingly, the Avargues algorithm requires that, "[i]f the range ABabc0 – ABabc9 belongs to the range that has been given by the configuration (i.e., is contained by the interval [low, high]), then the wildcard ABabc+ can be used. Furthermore, if the range ABab00-ABa999 belongs to the configured range, then the wildcard ABab+ can be used, covering a wider range than before. Again, the intervals ABa000-ABa999 (potentially leading to ABa+) and AB0000-AB9999 (potentially leading to AB+) are checked." (col. 10, lines 13-20) Therefore, Avargues provides a simplistic and non-predictive approach to determining an optimized set of numbers suitably disposed to optimally represent a given range of numbers by a set of wildcard entries. In particular, the approach used by Avargues merely uses trial and error that requires comparing the configured range (i.e., the range of numbers to be represented) to a larger range of numbers that includes the configured range in order to determine the optimization to be used. In the example provided by Avargues, a range of 324000 – 325324 requires comparing 320000 – 329999 (i.e., a range of numbers greater than the given range) to the given range 324000 – 325324 in order to reveal that 32+ can not be used. This approach is both inefficient in time as well as computing resources since there is no predictive capability and therefore the algorithm must perform multiple compares of the configured range (324000 – 325324) and various of its subintervals in order to provide a full set of optimized wildcard entries.

In contrast to Avargues, the invention as recited in claim 4, as amended, recites,

“representing and optimizing the second, third, and fourth sub-ranges as a plurality of entries using wildcards within the optimized set, wherein the optimizing only includes the given range of numbers.”

In this way, the optimizing does not extend to those numbers beyond the numbers included in the given range of numbers in contrast to the algorithm described by Avaragues. Therefore, the Applicant believes that claim 4 is allowable over the cited art.

New claims 38 – 61 have been added that the Applicant believes are also allowable over Avaragues. For example, independent claim 38 teaches a predictive approach to representing a range of numbers by a set of optimized sub-ranges since the maximal degree of optimization can be ascertained at the onset of the optimization and not (as with Avaragues) at the completion of the algorithm. More specifically, claim 38 recites,

“(b) optimizing at least one of the sub-ranges, said optimizing (b) including at least:

(c) determining a difference position between a lowest value sub-range number and a highest value sub-range number **indicating a maximal degree of optimization of the sub-range**, and

(d) optimizing the sub-range based upon the difference position.”

(emphasis added)

In this way, claim 38 provides a predictive approach to optimization in that the maximal degree of optimization is immediately known based upon the determination of the difference position in contrast to Avaragues where the maximal degree of optimization is not known until completion of the optimization procedure. Therefore, the invention as recited in claim 38 provides an important and timely prediction of the maximal optimization for a range in contrast to the “hindsight” approach used in Avaragues.

Independent claims 49, 54, and 60 recite substantially the same limitations as claim 38 and are therefore also allowable over the cited reference for at least the reasons stated for claim 38.

All dependent claims depend either directly or indirectly from independent claims 38, 49, 54, and 60 and are therefore also allowable.

Accordingly, applicant believes that all pending claims are allowable and respectfully requests a Notice of Allowance for this application from the Examiner. If after reviewing this amendment, this case is not considered to be in condition for allowance for any reason, the Examiner is respectfully requested to contact the undersigned at the number set forth below.

Respectfully submitted,

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